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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,367	04/02/2001	Koji Obata	450100-03146	7171
20999 7590 11/15/2007 FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER TANG, KAREN C	
			ART UNIT 2151	PAPER NUMBER
			MAIL DATE 11/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

09/824,367

Applicant(s)

OBATA ET AL.

Examiner

Karen C. Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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- This action is responsive to the amendment and remarks file on 11/2/07.
- Claims 1, 3-11 are presented for further examination.

### **DETAILED ACTION**

#### ***Response to Arguments***

Applicant's arguments filed 11/2/07 have been fully considered but they are not persuasive.

Applicant argues that the cited art of records (Kiriya and AAPA) do not teach or suggest the following limitation: "wherein the first calculating means calculates the time division multiplexing cycle irrespective of the transport rate of said plurality of bit streams."

Examiner disagrees.

First of all, examiner would like to point out that the limitation is contradicting to what is indicated on the specification of such a limitation. On the specification, paragraph 0062, where to calculate the time division multiplexing cycle, the rate of transport rate is being used.

Applicant argues that the cited art of records fails to teach/suggested the limitations.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Furthermore, the cite art of records (Kiriya and AAPA) do suggest the limitations as the following:

a data multiplexer for performing time division multiplexing of a plurality of bit streams, said data multiplexer comprising: an extracting means for extracting access unit information

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(demultiplexing) necessary for multiplexing processing from each of said plurality of bit streams (see Kiriya, refer to Col 3, Lines 1-26);

a first calculating means for calculating a time division multiplexing cycle (Examiner interprets that each cycle is equivalent to each of the each VBR/ABR stream of data that supply to the buffer, Time period, refer to Col 5, Lines 1-45) for each of said plurality of bit streams, such that a separator separates multiplexed data by a specified method on the basis of said information extracted by said extracting means (see Kiriya, refer to Col 9, 10, 13 and 14); and a multiplexing means for performing time division multiplexing of said plurality of bit streams (it is VBR and ABR cells are different bit streams, refer to Col 9 and 10) on the basis of a result calculated by said first calculating means (see Kiriya, refer to Col 10); wherein different multiplexing cycle equations are used to calculate multiplexing cycles of each of said plurality of bit streams (VBR is one calculation, CBR is different calculation, refer to Col 6, 9 and 10, which produce by different processor/controller).

wherein said access unit information includes picture coding type (see Kiriya, distinguish and identify different signal type i.e., video, audio, Col 3, Lines 5-10, Col 13, Lines 45-60), access unit length (see Kiriya, common data length, refer to Col 3, Lines 5-10), and decoding time (delay time, refer to Col 14, lines 1-15)

Kiriya did not expressly indicate said different multiplexing cycle equations derived using rates of transfer of data between buffers according to a virtual decoder model conforming to a Moving Picture Experts Group (MPEG) system standard.

AAPA disclosed wherein the different multiplexing cycle equation are used by said first calculating means to calculate multiplexing cycles of each of said plurality of bit streams, said

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different multiplexing cycle equations derived using rates of transfer of data between buffers according to a virtual decoder model (refer to 0002-0018).

At the time of the invention, it would have been obvious of ordinary skill in the art to incorporate Kiriyama and AAPA to incorporate the calculating means by utilizing the rate of transfer of data between buffers according to the MPEG.

The suggestion/motivation would have been that Kiriyama disclosed the need to find the buffer occupancy information (refer to Col 7, 8 and 9).

wherein said access unit information includes picture coding type, access unit length and decoding time (refer to 0027 and 0029).

Kiriyama did not expressly wherein said multiplexing means calculates an amount of available space in said buffers based on data size of said plurality of bit streams and outputs a result to said first calculation means.

AAPA disclosed wherein said multiplexing means calculates an amount of available space in said buffers based on data size of said plurality of bit streams and outputs a result to said first calculation means (refer to 0015).

At the time of the invention, it would have been obvious of ordinary skill in the art to incorporate Kiriyama and AAPA since the arts are analogous.

The suggestion/motivation would have been that Kiriyama disclosed the need to find the buffer occupancy information (refer to Col 7, 8 and 9).

Although Kiriyama disclosed the invention substantially as claimed, Kiriyama is silent regarding a second calculating means for calculating a data occupancy rate of a virtual data buffer of said separator, and wherein said multiplexing means determines an order in which said plurality of bit

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streams are multiplexed on the basis of the data occupancy rate of said virtual data buffer calculated by said second calculating means.

AAPA, in an analogous art discloses a second calculating means for calculating a data occupancy rate of a virtual data buffer of said separator, and wherein said multiplexing means determines an order in which said plurality of bit streams are multiplexed on the basis of the data occupancy rate of said virtual data buffer calculated by said second calculating means (it is defined in AAPA that the size of the buffer and the rate of transfer between the buffer, which is the data occupancy rate, must be define precisely, refer to 0003. It is obvious that the rate must be calculated in order to determine what the rate is. Also, the equation represents the data occupancy rate: equation 9, 0017 and equation 10).

Hence, providing features disclosed by AAPA, would be desired for user to implement in order to find the buffer occupancy information.

Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the system of Kiriya by including the features provides methods to find data occupancy rate in the buffer.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1, 3-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In this particular case the newly amended limitation “wherein the first calculating means calculates the time division multiplexing cycle irrespective of the transport rate of said plurality of bit streams” does not have the support from the specification.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiriya (US 5,561,466) in view of AAPA (Applicant Submitted Prior Art – Background Invention).

1. Referring to Claims 1, 3 and 4, Kiriya disclosed a data multiplexer for performing time division multiplexing of a plurality of bit streams, said data multiplexer comprising: an extracting means for extracting access unit information (demultiplexing) necessary for multiplexing processing from each of said plurality of bit streams (refer to Col 3, Lines 1-26); a first calculating means for calculating a time division multiplexing cycle (Examiner interprets that each cycle is equivalent to each of the each VBR/ABR stream of data that supply to the buffer, Time period, refer to Col 5, Lines 1-45) for each of said plurality of bit streams, such that

a separator separates multiplexed data by a specified method on the basis of said information extracted by said extracting means (refer to Col 9, 10, 13 and 14); and  
a multiplexing means for performing time division multiplexing of said plurality of bit streams (it is VBR and ABR cells are different bit streams, refer to Col 9 and 10) on the basis of a result calculated by said first calculating means (refer to Col 10); wherein different multiplexing cycle equations are used to calculate multiplexing cycles of each of said plurality of bit streams (VBR is one calculation, CBR is different calculation, refer to Col 6, 9 and 10, which produce by different processor/controller).

wherein said access unit information includes picture coding type (distinguish and identify different signal type i.e., video, audio, Col 3, Lines 5-10, Col 13, Lines 45-60), access unit length (common data length, refer to Col 3, Lines 5-10), and decoding time (delay time, refer to Col 14, lines 1-15)

wherein the calculating step calculates the time division multiplexing cycle irrespective of the transport rate of said plurality of bit streams (it is obvious to calculate the time division multiplexing cycle irrespective of the transport rate of said plurality of bit streams.);

Kiriyama did not expressly indicate said different multiplexing cycle equations derived using rates of transfer of data between buffers according to a virtual decoder model conforming to a Moving Picture Experts Group (MPEG) system standard.

AAPA disclosed wherein the different multiplexing cycle equation are used by said first calculating means to calculate multiplexing cycles of each of said plurality of bit streams, said different multiplexing cycle equations derived using rates of transfer of data between buffers according to a virtual decoder model (refer to 0002-0018).



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At the time of the invention, it would have been obvious of ordinary skill in the art to incorporate Kiriyaama and AAPA to incorporate the calculating means by utilizing the rate of transfer of data between buffers according to the MPEG.

The suggestion/motivation would have been that Kiriyaama disclosed the need to find the buffer occupancy information (refer to Col 7, 8 and 9).

wherein said access unit information includes picture coding type, access unit length and decoding time (refer to 0027 and 0029).

Kiriyaama did not expressly wherein said multiplexing means calculates an amount of available space in said buffers based on data size of said plurality of bit streams and outputs a result to said first calculation means.

AAPA disclosed wherein said multiplexing means calculates an amount of available space in said buffers based on data size of said plurality of bit streams and outputs a result to said first calculation means (refer to 0015).

At the time of the invention, it would have been obvious of ordinary skill in the art to incorporate Kiriyaama and AAPA since the arts are analogous.

The suggestion/motivation would have been that Kiriyaama disclosed the need to find the buffer occupancy information (refer to Col 7, 8 and 9).

Although Kiriyaama disclosed the invention substantially as claimed, Kiriyaama is silent regarding a second calculating means for calculating a data occupancy rate of a virtual data buffer of said separator, and wherein said multiplexing means determines an order in which said plurality of bit streams are multiplexed on the basis of the data occupancy rate of said virtual data buffer calculated by said second calculating means.

AAPA, in an analogous art discloses a second calculating means for calculating a data occupancy rate of a virtual data buffer of said separator, and wherein said multiplexing means determines an order in which said plurality of bit streams are multiplexed on the basis of the data occupancy rate of said virtual data buffer calculated by said second calculating means (it is defined in AAPA that the size of the buffer and the rate of transfer between the buffer, which is the data occupancy rate, must be defined precisely, refer to 0003. It is obvious that the rate must be calculated in order to determine what the rate is. Also, the equation represents the data occupancy rate: equation 9, 0017 and equation 10).

Hence, providing features disclosed by AAPA, would be desired for user to implement in order to find the buffer occupancy information.

Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the system of Kiriya by including the features provides methods to find data occupancy rate in the buffer.

2. Referring to Claim 5, Kiriya disclosed wherein a bit stream is a video stream (refer to Col 7).

3. Referring to Claim 6, Kiriya disclosed wherein a bit stream is an audio stream (refer to Col 7).

4. Referring to Claim 7, Kiriya disclosed wherein a bit stream is a system data stream (audio/video stream is the system data stream, refer to Col 7 and 8).

5. Referring to Claim 10, Kiriya disclosed as access unit information detector for extracting access unit information (demultiplexer device, refer to Col 9); and a multiplexing scheduler (processor 55, refer to Col 7) means for generating schedule information by using said access unit information.

6. Referring to Claim 11, Kiriya disclosed the steps of: generating schedule information from a multiplexing scheduler (processor 55, refer to Col 7) means by using said access unit information.

7. Referring to Claim 8, Kiriya disclosed transfer usage of buffer and plurality of bit streams (refer to Col 7).

Kiriya did not expressly indicate transferring data utilized leaking method, wherein said specified method is a leak method that is used to transfer said plurality of bit streams between buffers.

AAPA indicate transferring data utilized leaking method, wherein said specified method is a leak method that is used to transfer said plurality of bit streams between buffers (refer to page 7).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Kiriya, and AAPA due to the fact that need to calculate delay for the buffer occupancy and efficiency.

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The suggestion/motivation would have been that by utilizing the leaking method to transfer data between buffers, to reduce the error while delivering data information, so that the data wouldn't be loss.

8. Referring Claim 9, Kiriya disclosed transfer usage of buffer and plurality of bit streams (refer to Col 7).

Kiriya did not expressly indicate transferring data utilized vbv\_method, wherein said specified method is a leak method that is used to transfer said plurality of bit streams between buffers.

AAPA indicate indicates transferring data utilized vbv\_method, wherein said specified method is a leak method that is used to transfer said plurality of bit streams between buffers (refer to Page 8).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Kiriya, and AAPA due to the fact that need to calculate delay for the buffer occupancy and efficiency.

The suggestion/motivation would have been that by utilizing the vbv-delay method to transfer data between buffers, to reduce the error while delivering data information, so that the data wouldn't be loss.

### *Conclusion*

**Examiner's Notes:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the

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specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen C. Tang whose telephone number is (571)272-3116. The examiner can normally be reached on M-F 7 - 3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571)272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KT



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